CHEVRON RESOURCES COMPANY
PROPOSED PHASE II MODIFICATIONS
VERNAL PHOSPHATE PROJECT
UINTAH COUNTY, UTAH

I. Background

Chevron Resources Company currently operates a surface phosphate mining and beneficiation plant facility in Uintah County, Utah. These operations are located approximately 10 miles north of the town of Vernal near State Hwy. 44 (see attached Location Map, Figure 1). The property is bisected by Brush Creek, a perennial stream which empties into Red Fleet Reservoir downstream.

The mine property, plant facilities and associated equipment were acquired from Stauffer Chemical Company in early 1981. Stauffer had operated the facility since the early 1960's. (All current operations are located on fee lands where both surface and mineral rights are owned by Chevron.)

Immediately upon acquiring title to the Vernal properties in 1981, Chevron embarked upon an expansion and modification program to reduce particulate emissions and increase phosphate concentrate production, in addition to increasing the efficiency of overall operations. This program, referred to as Phase I modifications, involved reducing ore haulage distances and eliminating a primary and tertiary crushing and screening circuit at the beneficiation plant in favor of a semi-autogenous grinding (SAG) mill located near the mine area. Ore grinding at the SAG mill is a wet process and the resultant ore slurry is then pumped from the

SAG mill to the benficiation plant through a slurry line. By reducing ore haulage and eliminating the crushing-screening circuit, particulate emissions were reduced substantially.

Overburden removal is currently accomplished by first blasting to loosen the material. The overburden material is then moved with Dozers (at the rate of 4.0 million tons per year) into nearby mined out areas. The ore is then blasted, removed by a shovel or loader (at the rate of 2.0 million tons per year) and loaded into trucks for haulage to the portable crusher and conveyor which feeds the 80,000 ton coarse stockpile located adjacent to the SAG mill. Ore is drawn from the stockpiles and moved by underground conveyor to the SAG mill where it is ground into a wet slurry. This slurry is transported approximately 8,000 feet through a slurry pipeline to the beneficiation plant, where, through a flotation process, the phosphate material is separated from the waste material. The waste material, or tailings, (coarse fraction and slimes) are piped to on-site tailings impoundments for disposal, while the phosphate concentrate is sent to a filter and then to one of three (3) gas-fired rotary dryers to remove the remaining moisture. The dry concentrate from the dryer is then conveyed either to a 6,000 ton capacity enclosed concentrate storage bin or direct to the loadout hoppers and into large capacity trucks. The trucks haul the phosphate concentrate to a storage and railroad loading facility at Phoston, Utah, (for subsequent shipment to a concentrate purchaser), or to Chevron's phosphoric acid facility at Garfield. The existing plant is presently capable of producing approximately 840,000 tons of dry phosphate concentrate annually.

Process water is provided by recycling decant water from the tailings ponds, and make-up water from wells located on-site. Sewage treatment and disposal is

accomplished with septic tanks and subsurface leaching fields. Bottled water is currently obtained from on-site wells to satisfy potable water requirements.

A solid waste disposal site is situated on the property for disposal of office and other miscellaneous wastes.

Approximately 175 workers are employed at the existing operation.

2. Proposed Phase II Modification

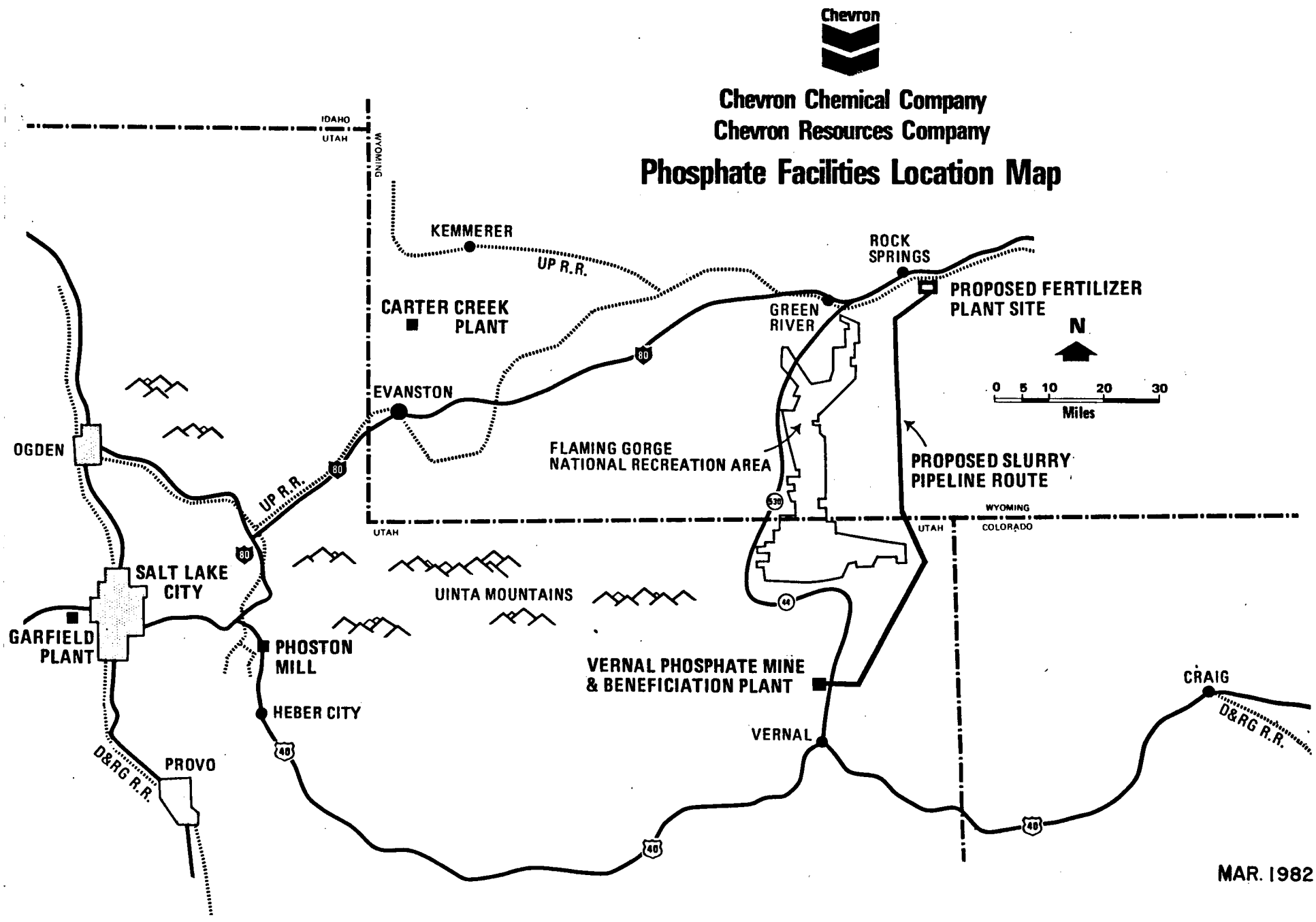
Chevron is now planning further modifications at Vernal necessary to supply phosphate concentrate to a fertilizer plant proposed by Chevron Chemical Company near Rock Springs, Wyoming.

If the proposed fertilizer plant proceeds, Chevron Resources would expand mining operations and modify the beneficiation plant at Vernal to produce the required phosphate concentrate. This expansion - modification program would generally involve (i) expanding overburden and ore mining rates to 22.4 and 6.2 million tons per year respectively; (ii) expanding the beneficiation plant to produce 2.1 million tons per year of phosphate concentrate. A dragline would be employed to remove overburden and front-end loaders might be used for ore loading operations in lieu of shovels. Ore would be placed on conveyors at the mine, rather than trucks, for transport to the coarse ore stockpiles at the existing SAG mill. (The existing SAG mill has sufficient capacity to accommodate the increased production rate, however, the coarse stockpiles would be expanded.) Slurried ore would continue to be moved to the existing beneficiation plant through a slurry line. The beneficiation plant would be modified to improve recoveries and expanded to accommodate

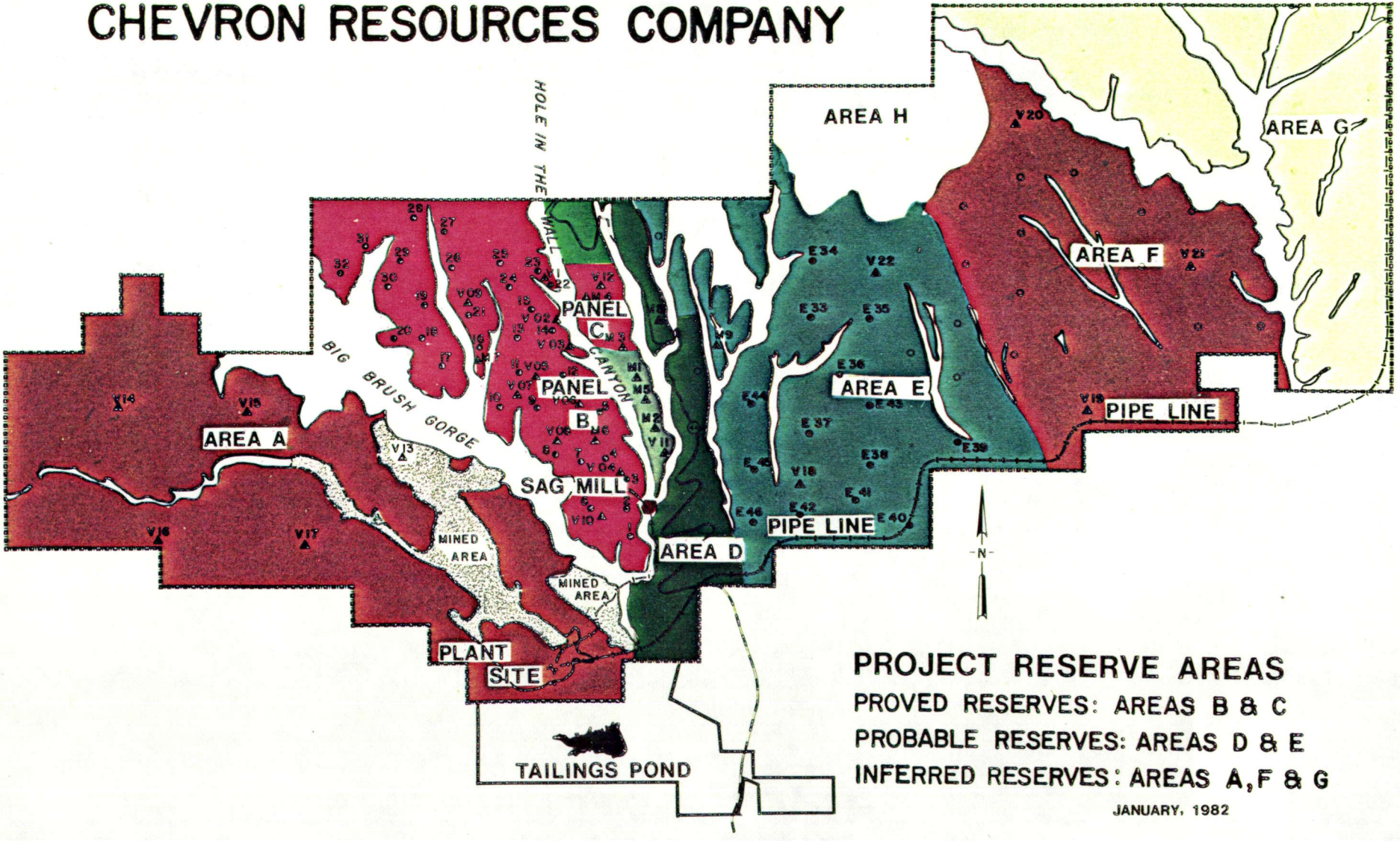
approximately 5.3 million tons of ore annually and produce approximately 2.1 million tons of phosphate concentrate annually. The rotary concentrate dryers, the dry concentrate handling storage circuit and the loadout circuit would be abandoned since the phosphate concentrate will be pumped in slurry form through a pipeline to the proposed fertilizer plant in Wyoming. The proposed slurry pumping and pipeline facility will be a part of the Chevron Chemical Company fertilizer plant rather than the Vernal expansion.

Over the long-term, it will be necessary to construct additional tailings storage capacity, either by raising the dams at the existing impoundment or constructing new impoundments. Additional water wells could be needed to supply the necessary process water and additional electric power will also be needed to feed the mining operations and increased power requirements at the SAG mill and beneficiation plant.

Approximately the same size of work force would be employed at the Vernal operation when the Phase II modifications are completed.


Chevron
Chevron Chemical Company
Chevron Resources Company
Phosphate Facilities Location Map
IDAHO
UTAH
WYOMING
KEMMERER
UP R.R.
CARTER CREEK
PLANT
EVANSTON
ROCK
SPRINGS
GREEN
RIVER
PROPOSED FERTILIZER
PLANT SITE
N
0 5 10 20 30
Miles
OGDEN
UP R.R.
FLAMING GORGE
NATIONAL RECREATION AREA
PROPOSED SLURRY
PIPELINE ROUTE
UTAH
WYOMING
COLORADO
SALT LAKE
CITY
UINTA MOUNTAINS
GARFIELD
PLANT
PHOSTON
MILL
VERNAL PHOSPHATE MINE
& BENEFICIATION PLANT
HEBER CITY
CRAIG
VERNAL
D&RG R.R.
PROVO
D&RG R.R.
MAR. 1982

VERNAL PHOSPHATE OPERATIONS
CHEVRON RESOURCES COMPANY



PROJECT RESERVE AREAS

PROVED RESERVES: AREAS B & C

PROBABLE RESERVES: AREAS D & E

INFERRED RESERVES: AREAS A, F & G

JANUARY, 1982

VERNAL P_2O_5 RESERVES

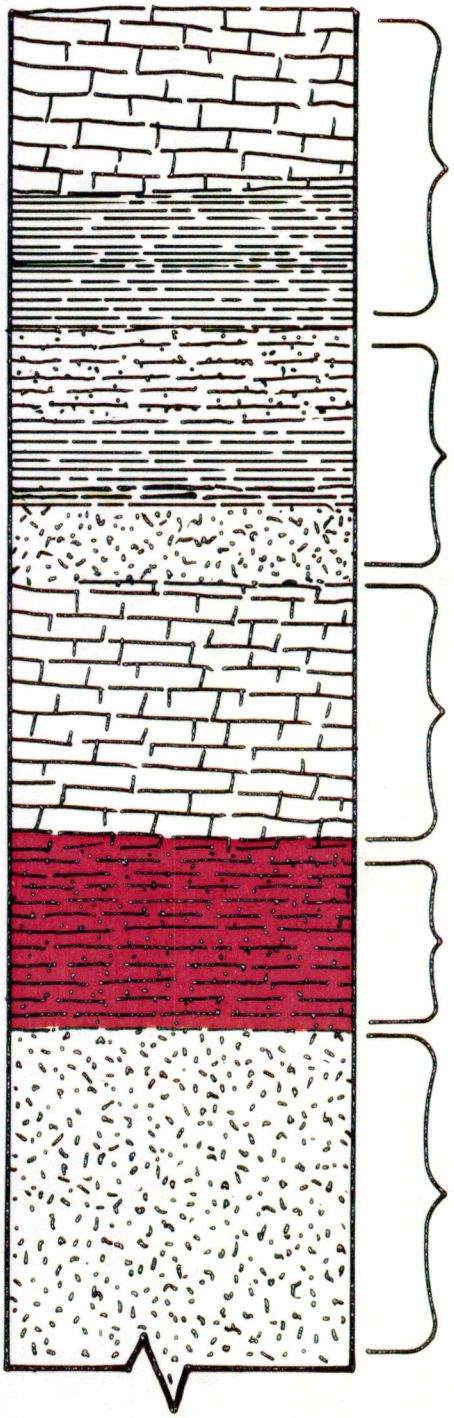
PANEL C	14,500,000 Tons	
1982-1984	- 6,300,000 Tons	
	8,200,000 Tons	
PANEL B	62,000,000 Tons	
	70,200,000 Tons	11 YEAR MINING AREA

	AREA		
East of Highway 44	E	129,462,000 Tons	12-30 YEAR MINE PLAN
Road Area	D	30,000,000 Tons	
Large Mine Block East	F	126,264,000 Tons	
Large Mine Block West	A	170,642,000 Tons	
Deep Cover	H	58,072,000 Tons	
East Little Brush Creek	G	105,842,000 Tons	
		690,482,000 Tons	Remaining 1985

696,782,000 Tons End of 1981

Dec, 1981

GENERALIZED STRATIGRAPHIC COLUMN



OVERBURDEN THICKNESS

UPPER CLIFF FORMER

UPPER FRANSON
35 FT. LIMESTONE

MACKENTIRE

30 FT. SHALE

LOWER CLIFF FORMER

LOWER FRANSON
30 FT. LIMESTONE

PHOSPHORIA

MEADE PEAK
17 FT. - 20 FT.

WEBER SANDSTONE

Approx. 95 FT.

Approx. 60 FT.

Approx. 30 FT.

CHEVRON RESOURCES - Phase II

JAN. 1982

PHASE II
FEASIBILITY STUDY
BENEFICIATION PLANT

- CONCEPTUAL DESIGN FOR MILL / CONCENTRATOR

- PLANT EXPANSION PROGRAM

- EXISTING	500,000 TPY CONC.
- PHASE I	800,000 TPY CONC.
- PHASE II	2,100,000 TPY CONC.
- PHASE III	3,500,000 TPY CONC.

- PHASE I INTERFACE

  - UTILIZATION PHASE I DATA
  - UTILIZATION PHASE I PERSONNEL

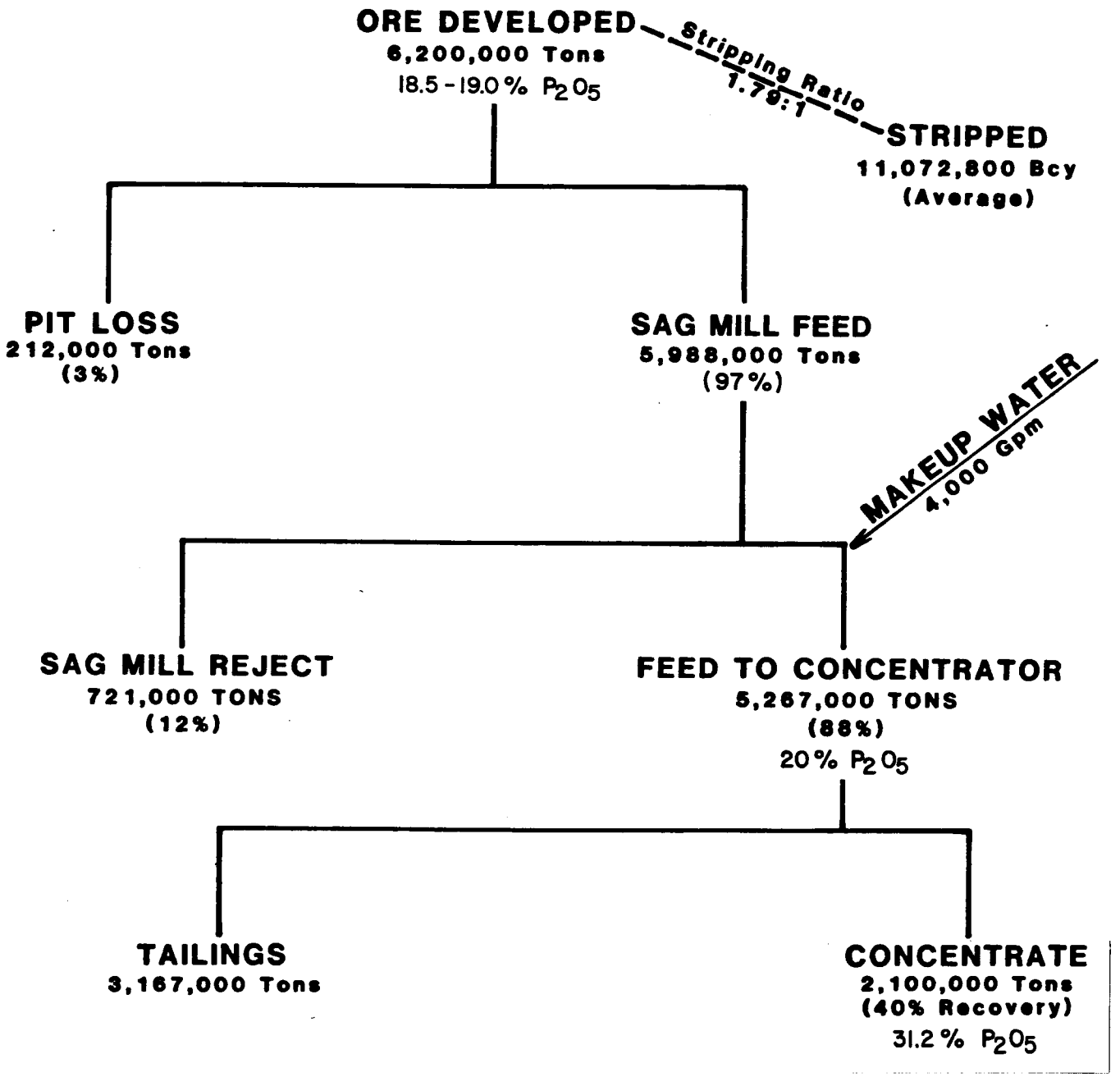
JAN. 1982

DESIGN BASIS

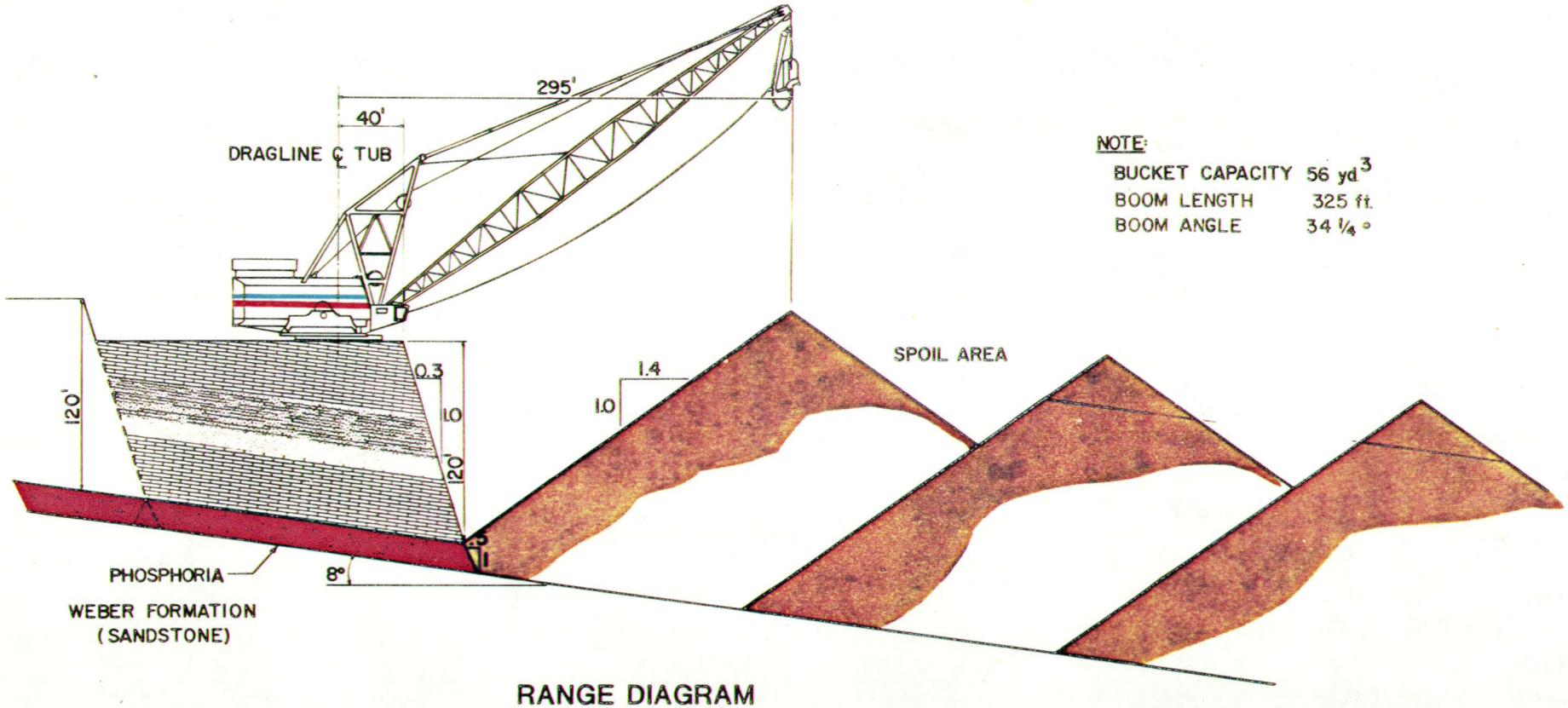
• BASE CASE	2.1 MILLION TPY CONCENTRATE
• CONC. GRADE	31 % P_2O_5 (Minimum) 0.7 % MgO (Maximum)
• RECOVERY	40 wt % SAG MILL DISCHARGE
• EXISTING EQUIP	MAXIMIZE REUSE
• FUTURE EXPANSION	CONSIDER IMPACT OF PHASE III ON PHASE II DESIGN

JAN. 1982

ANNUAL MATERIAL FLOW



MAR. 1982



NOTE:

BUCKET CAPACITY	56 yd^3
BOOM LENGTH	325 ft.
BOOM ANGLE	34 1/4 °

RANGE DIAGRAM

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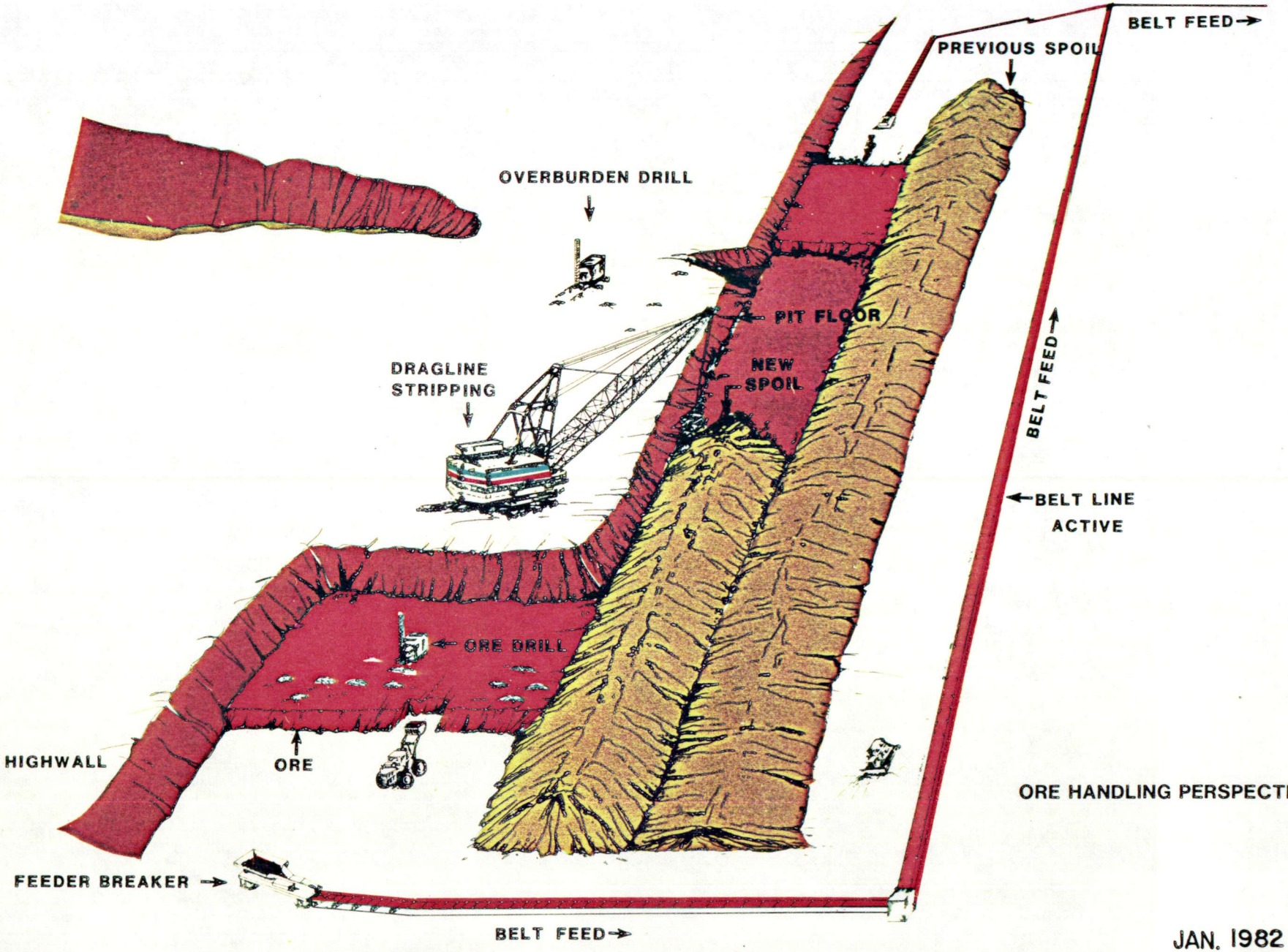

ORE HANDLING PERSPECTIVE

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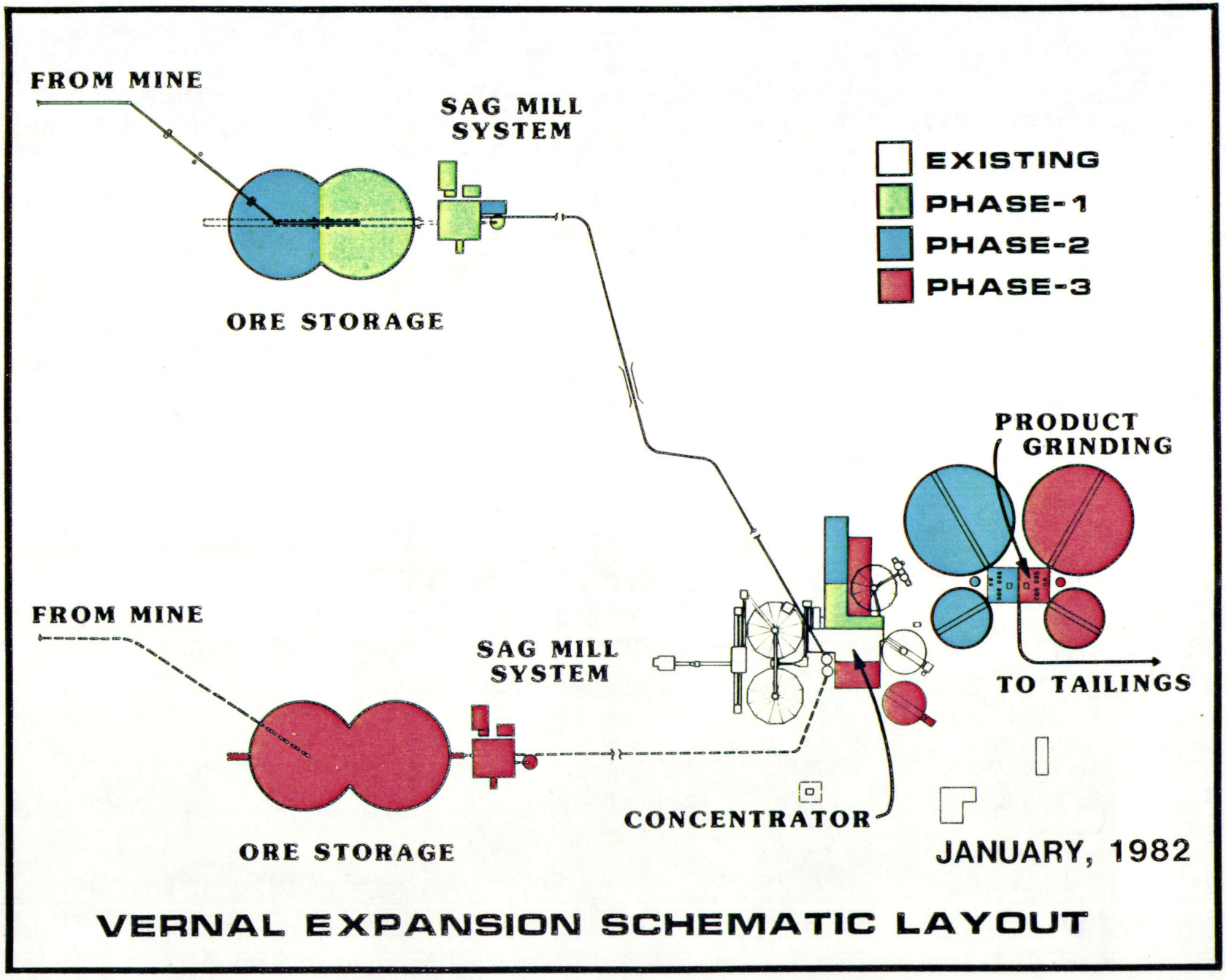
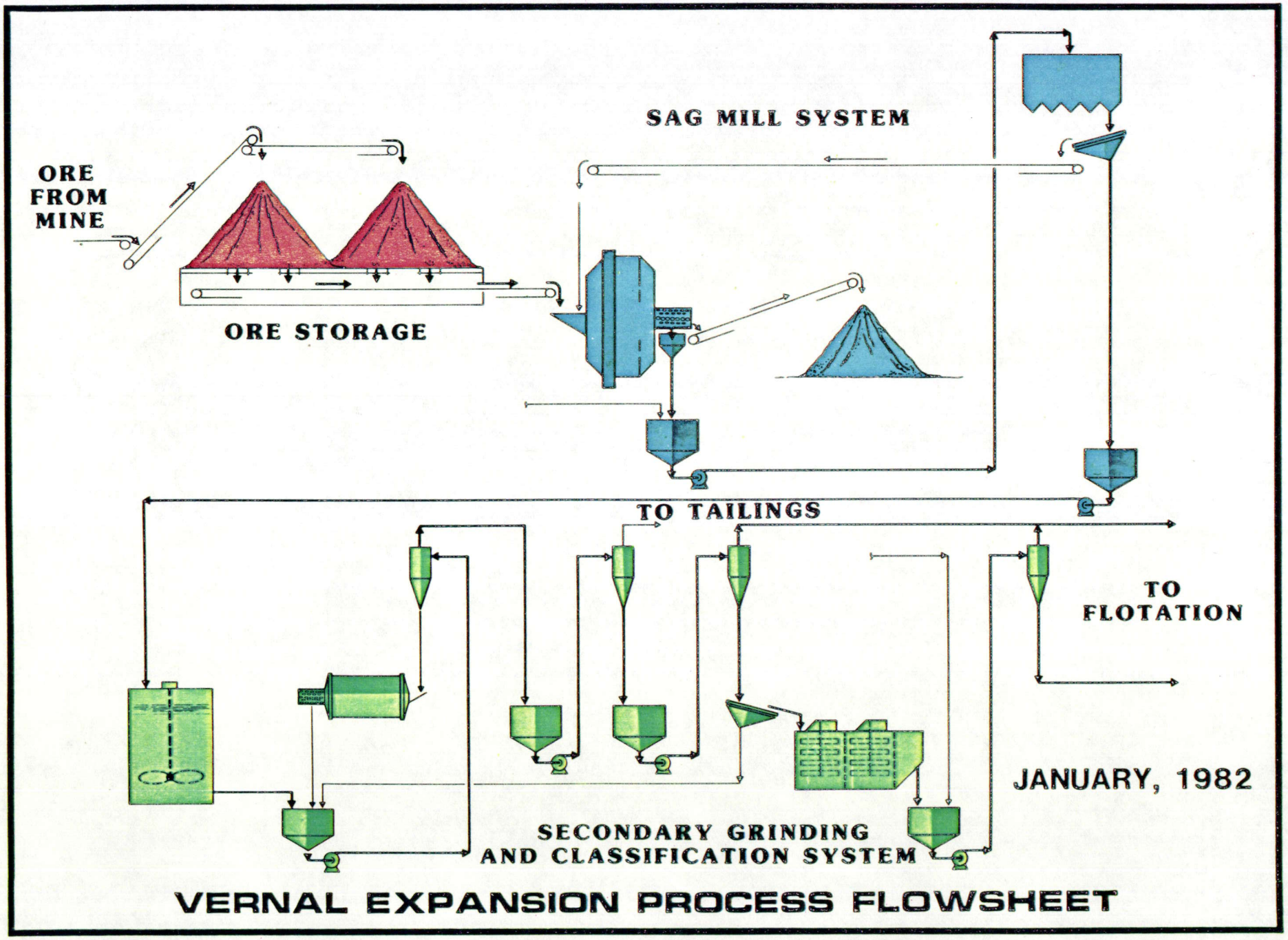
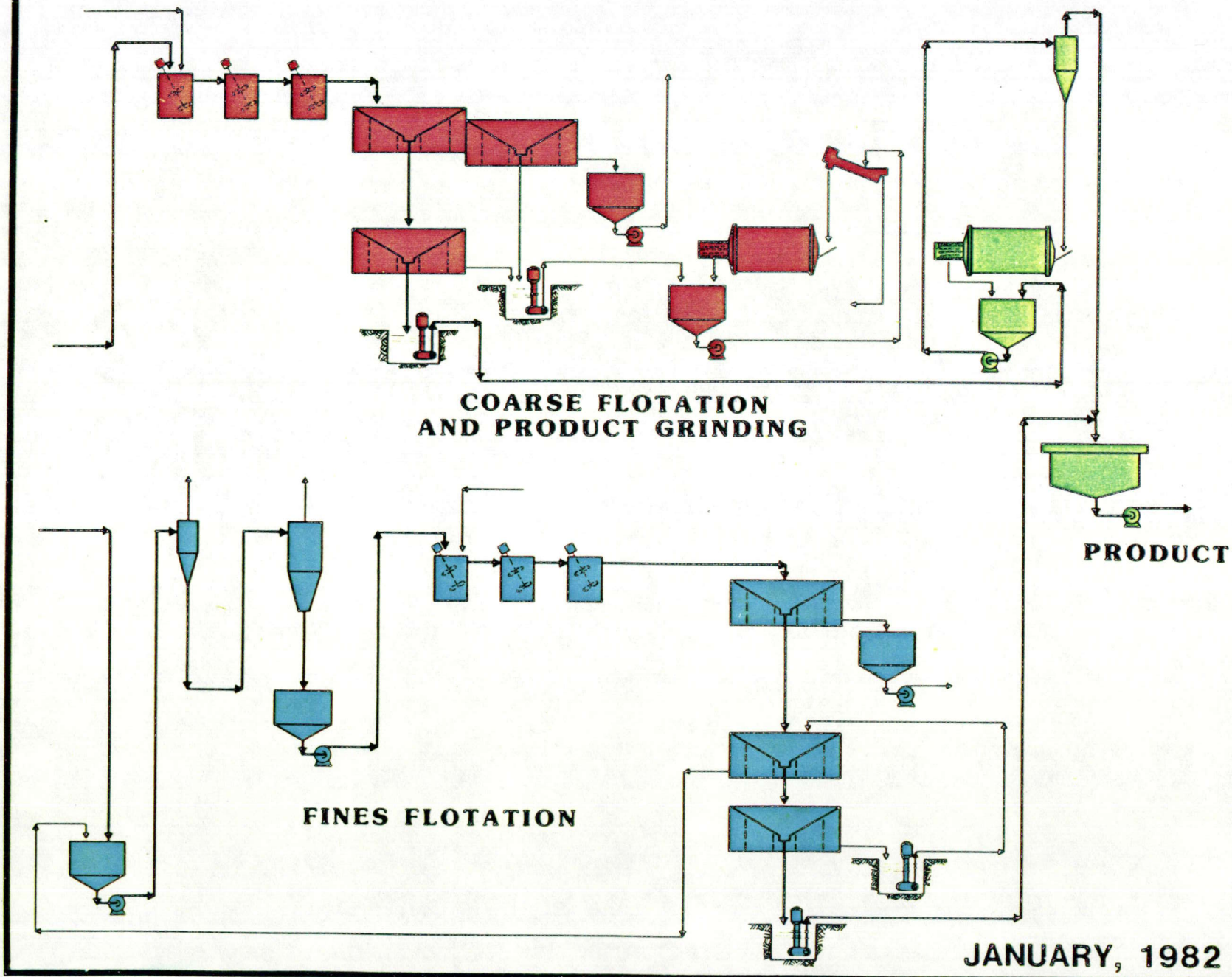


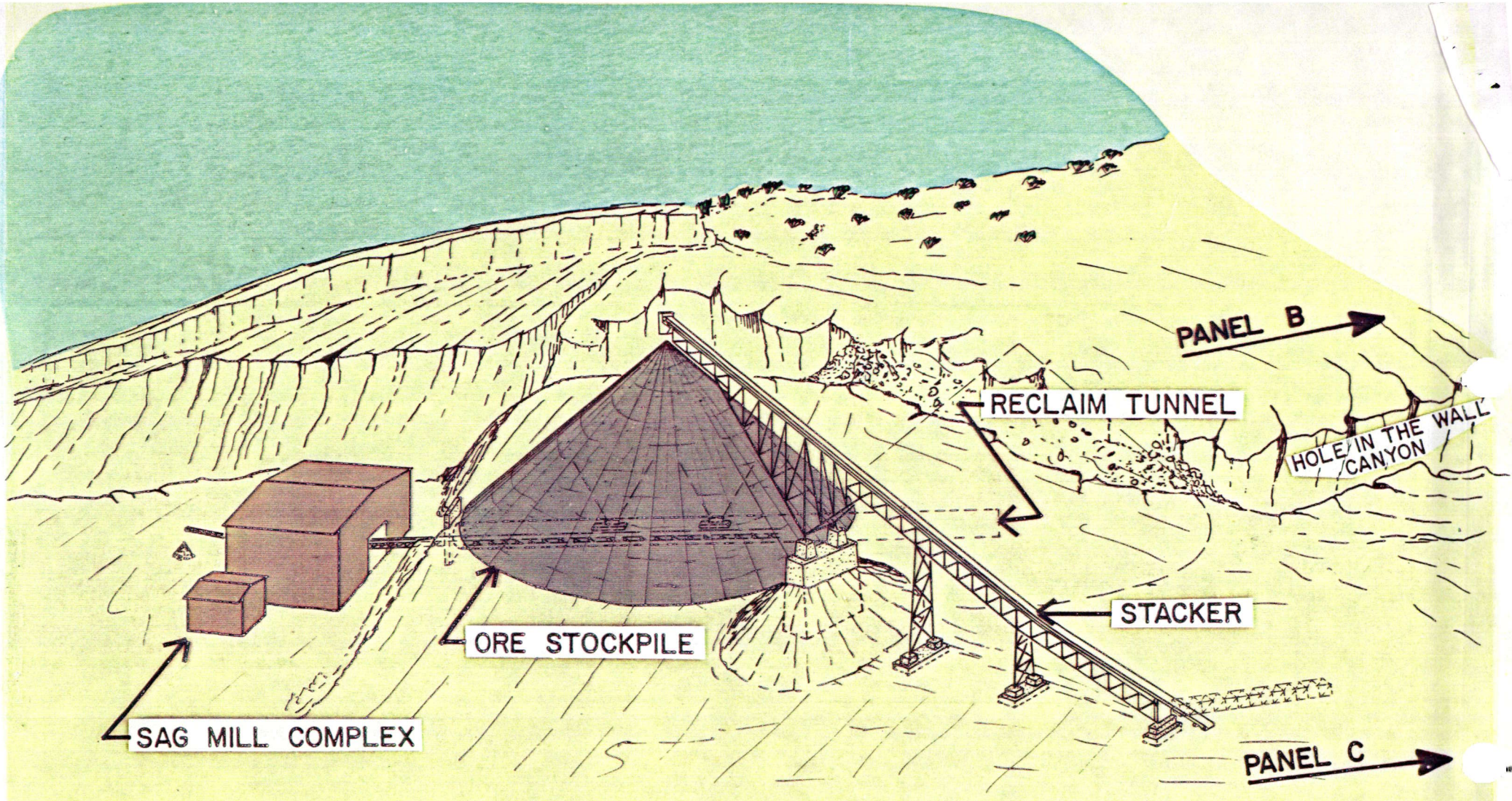
VERNAL EXPANSION SCHEMATIC LAYOUT



VERNAL EXPANSION PROCESS FLOWSHEET

VERNAL EXPANSION PROCESS FLOWSHEET





SAG RECLAIM SYSTEM

VERNAL PHOSPHATE OPERATIONS

CHEVRON RESOURCES COMPANY

3/25/82